REMARKS

The Examiner is thanked for the careful examination of the application.

However, in view of the remarks that follow, the Examiner is respectfully requested

to reconsider and withdraw the outstanding rejections.

35 USC 112, first paragraph:

Claims 1 - 12 and 22 - 24 have been rejected under 35 USC 112, first

paragraph. The Examiner alleges that the claim language "irrespective of the first

condition" is not supported by the specification. Applicants submit that the language

is supported by the application, and in particular, by paragraph [0039] of the

published application:

> [0039] The following description will discuss the binarizing operation.
> First, the image processing section 30 (FIG. 2) selects a target pixel to
> which the binarizing operation is applied (step 404). The binarizing
> operation *is carried out on all the pixels within an input image*; and
> the target pixel may be selected, for example, from pixels starting with
> the upper left pixel of the image in the right direction in succession.
> (emphasis added)

Thus, it is Applicant's position that since the operation is carried out on all of the

pixels, then the operation is carried out irrespective of the first condition.

The Examiner questions the support, arguing that the language "may be

selected" indicates that "a target pixel may also not select according to the

language." The Examiner's point is not really understood. Nevertheless, the "may

be selected" language refers to how the target pixel is selected, not *if* it is selected.

Accordingly, Applicant again states that since all the pixels are selected, there is

support for the claim language.

35 USC 101:

With regard to 35 USC 101, claim 12 has been amended to ensure compliance with the "machine or transformation" test. Accordingly, the Examiner is respectfully requested to reconsider and withdraw the rejection.

Art Rejections:

Claims 1, 2, 6 - 8, 12, and 22 - 24 have been rejected under 35 U.S.C. §103(a) as being allegedly obvious over U.S. Patent No. 6,766,056, hereinafter *Huang*, in view of U.S. Patent No. 5,396,584, hereinafter *Lee*. Claims 3, 4, 9, and 10 have been rejected over *Huang*, in view *Lee*, and in view of U.S. Patent No. 5,687,252, hereinafter *Kanno*.

The present invention provides an efficient method for *determining whether or not an image has a specified pattern*. A set forth in the specification, one purpose is for detecting patterns that are used in currency so as to prevent the generation of counterfeit currency. However, the present invention is not limited to the preferred disclosed embodiments.

The pixel buffer pipe does not store conditions:

According to claim 1, both the first and second conditions are stored in a storing unit. The Examiner alleges that the pixel buffer pipe 42 corresponds to the claimed storage unit that stores the first and second conditions. However, the pixel buffer pipe 42 does not store any conditions. At best, the pixel buffer pipe 42 buffers image pixels, and does not store conditions. The pixel buffer pipe 42 receives sub-

sampling conditions from the sub-sample control 41, but it does not store them. In the event that the Examiner maintains the rejection, the Examiner is respectfully requested to explain how the pixel buffer pipe 42 **stores** first and second conditions.

Examiner ignores "in the original image data" for the second condition:

Claim 1 describes the second condition as being met "if a pixel is in a prescribed position relative to a target pixel *in the original image data*". Regardless as to how *Huang* operates, this condition is not met.

Specifically, in *Huang* if the pixels are culled or sub-sampled prior to entering the pixel buffer pipe 42, then the lag pixels would not be selected based on the original image data, they would be selected based on the sub-sampled data. Therefore, the lag pixels would not have been in a prescribed position relative to the target pixel in the original data.

Alternatively, if the pixels are culled or sub-sampled in the pixel buffer pipe 42, then the lag pixels also would not have been in a prescribed position relative to the target pixel in the original data. The Office has taken the position that sub-sampling occurs in the pixel buffer pipe 42 *prior* to reading the lag pixels for threshold determination. See the paragraph at the middle of page 3 in the Office Action dated August 13, 2008:

> "While Huang's disclosure is not wholly conclusive, it appears that the most plausible interpretation is that sub-sampling occurs first - for it would be highly inefficient to go to the trouble of computing the thresholds for each and every pixel only to later have a large number those pixels and their accompanying threshold values discarded via sub-sampling."

Thus, if the culling or sub-sampling occurs before reading of the lag pixels,

then the lag pixels are identified based on their post-culling relationship to the target

pixel, not based on their "prescribed position relative to a target pixel *in the original*

image data". Accordingly, under the Office's analysis, the lag pixels do not meet the

second condition.

Selection of a target pixel irrespective of the first condition:

The Examiner acknowledges that *Huang* does not explicitly teach a selection

of a target pixel can be *irrespective of the first condition*. See the last paragraph

on page 7 of the Office Action dated November 16, 2009. To overcome this

deficiency, the Examiner relies upon *Lee*, alleging that *Lee* discloses selection of a

target pixel irrespective of a condition. The Examiner alleges that it would have been

obvious to modify *Huang's* method with *Lee* to select a target pixel regardless of

other conditions.

Applicant submits that the Examiner's position is legally untenable. There is

no reasonable explanation as to why one of skill in the art would look to the

smoothing art to modify a reference teaching image pattern detection. It is well

recognized that even *KSR* requires that an obviousness rejection be supported by an

explicit analysis with "some articulated reasoning with some rational underpinning".

To allegedly fulfill this requirement, the Examiner merely concludes that:

> "Modifying Huang's method of processing method according to Lee
> would be able to select a target pixel regardless of other conditions.
> This would improve processing because it would help in the process of
> smoothing edges (column 12, lines 35 - 40) and therefore, it would
> have been obvious to one of ordinary skill in the art to modify Huang
> according to Lee."

However, as set forth in the claims, the present invention, as well as *Huang,* is for pattern detection. Thus, an object of the invention is to determine whether or not the image has a specified pattern. The invention has nothing to do with **altering** the image data or otherwise improving the appearance of the image. The Examiner's basis for the combination is that the process of smoothing edges "also is a way of detecting pattern". Page 3 of the Office Action dated November 16, 2009.

The Examiner refers to general statements in the introduction section of *Huang.* However, such statements are taken out of context. Where *Huang* refers to "high quality colour photocopying", *Huang* is referring to the fact that high quality color photocopies are known in the art. *Huang* nowhere states that his invention is a method of high quality color copying. Similarly, the cited paragraphs [0005] and [0006] of the present application also indicate that high quality color photocopies are known in the art. They do not state that the invention is a method of high quality color copying. Accordingly, Applicant again submits that smoothing edges is irrelevant to the pattern detection, and that there is no basis for the combination.

The proposed modification of Huang is not described:

Also significant is the fact that the Office Action provides no explanation as to how the process of *Huang* is allegedly modified by *Lee.* The Office Action merely concludes that it would have been obvious to modify *Huang* based on *Lee* such that *Huang* would be able to select a target pixel irrespective of condition. However, there is no explanation as to how *Huang* would be modified to accomplish this. The Examiner cannot simply plug in words from one reference to another reference. The Examiner must actually show how such a modification could be done.

In the event that the Examiner maintains the current rejection, the Examiner is respectfully requested to articulate how *Huang* would be modified by *Lee*. This request was previously made by Applicant and has been ignored by the Examiner.

Conclusion:

Accordingly, claim 1 is patentable over *Huang* and *Lee*. Claims 2, 6, 7, 8, 12, and 22 – 24 are patentable at least for the same reasons. With regard to claims 3, 4, 9 and 10, *Bloomberg* and *Kanno* do not overcome the deficiencies set forth above with respect to *Huang* and *Lee*.

Accordingly, Applicant respectfully requests the Examiner to reconsider and withdraw the rejections of claims 1 – 11, 12 and 22 - 24 in view of the foregoing remarks.

In the event that there are any questions concerning this response, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: <u>March 11, 2010</u>   By: <u>/WCRowland/</u>
                                    William C. Rowland
                                    Registration No. 30888

P.O. Box 1404
Alexandria, VA 22313-1404
703 836 6620